DOCUMENT RESUME

ED 158 827 JC 780 489

AUTHOR Hall, Toni
TITLE From Student Follow-Up Responses to a Statewide Supply/Demand Analysis of Educational Programs.
INSTITUTION Texas Education Agency, Austin.
PUB DATE Jul 78
NOTE 12p.; For related documents see ED 149 832 and 153 679

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Career Choice; College Graduates; *Data Collection; Educational Assessment; *Employment Opportunities; *Employment Projections; Employment Trends; *Followup Studies; Job Market; Labor Market; Labor Supply; *Management Information Systems; Occupational Surveys; *Post Secondary Education; State Surveys
IDENTIFIERS *Project FOLLOW UP; Student Followup Management Information System; Texas; Tex SIS FOLLOW UP Services

ABSTRACT

The Texas Student Follow-up Information System (Tex-SIS) for comprehensive postsecondary follow-up and the supply/demand analysis work of the Texas 1202 Commission, Office of Postsecondary Education Planning, together may provide a valuable prototype for other states and perhaps even for a national system of data collection and analysis. Tex-SIS includes seven subsystems: students' educational intent, withdrawal follow-up, non-returning student follow-up, graduate follow-up, employer follow-up, adult and continuing education follow-up, and state follow-up. Each subsystem contains 14 different student follow-up questionnaires providing a means for collecting data to assist colleges and technical institutes in learning about the quality of their instructional programs and services. Tex-SIS data on graduates and non-persisting students, students' job titles once employed, and availability of jobs to program completers are being used to produce the occupational supply/demand analyses of the Texas 1202 Commission. Commission reports concentrate on employment opportunities by program, provide projections of postsecondary supply, and identify occupational openings for students making career decisions. (MB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

- ED158827

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Toni Hall

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"From Student Follow-Up Responses to a Statewide Supply/Demand Analysis of Educational Programs"

Toni Hall
Chief Consultant
Vocational Planning and Evaluation
Texas Education Agency
Austin, Texas
July, 1978

JC 780 489

In order to prevent inappropriate education career choices and program planning decisions, it is necessary to improve the quality of educational data collection and data analysis. This is not meant to imply extensive data collection and data analysis are a panacea for the ills of costly educational decisions. Rather, we must realize the need for education decision makers, institutional researchers, and the general public to use current information for educational planning and career choices. For this reason, improvement of the knowledge and quality of our data collection and data analysis efforts for these purposes must be sought.

Two major problems encountered in seeking adequate program planning and career choice data are (1) the lack of reliable and timely information upon which to make such decisions and (2) the absence of systematic data analysis which translates raw data into usable information for education decision makers and the general public.

A major effort to improve data reliability and systematic data analysis is currently in operation on an annual basis in the state of Texas. The Texas effort includes (1) a postsecondary follow-up system which collects accurate supply data to assist in the development, operation, and evaluation of community college programs, and (2) a supply/demand analysis report which integrates postsecondary educational supply data with available occupational demand information. This paper will briefly describe the two major components of this Texas data collection and analysis activity. The flow of information from individual student follow-up responses to the use of these very responses in a statewide supply/demand system will be highlighted. A brief description is furnished of the Texas Student Follow-Up Information System (Tex-SIS) a

comprehensive postsecondary follow-up system and the supply/demand analysis work of the Texas 1202 Commission--Office of Postsecondary Educational Planning. Listings of available in-depth resource materials, rationales, data sources, and methodologies used are available by contacting the author of this paper.

The Texas Student Follow-Up Information System (Tex-SIS). Tex-SIS is a comprehensive postsecondary follow-up system which includes seven subsystems. These subsystems include fourteen different student follow-up questionnaires which provide a means for collecting data to assist colleges and technical institutes to learn more about the quality of their instructional programs and college services. The seven subsystems include:

Subsystem I	Student's Educational Intent
Subsystem II	Withdrawal Follow-Up
Subsystem III	Nonreturning Student Follow-Up
Subsystem IV	Graduate Follow-Up
Subsystem V	Employer Follow-Up
Subsystem VI	Adult and Continuing Education Follow-Up
Subsystem VII	State Follow-Up Reporting[1]

As a result of the implementation of Tex-SIS, Texas community colleges and technical institutes now have opportunities to collect reliable and current data on student's educational goals; student's future enrollment plans; reasons students withdraw from courses; reasons students withdraw from college; students rating of quality of instruction; instructor interest; content of courses; counseling; instructional media; student activities; library services; transfer problems; employment status; salary information; suggestions for improving courses; etc.

Information can also be obtained from employers of vocational/technical graduates about their rating of the education received by the employee in such areas as mathematical skills, technical knowledge, organizational ability, communication skills, personal appearance, punctuality, etc.

Throughout the state institutions are finding more and more uses for Tex-SIS data as they become more familiar with the results of the studies and potential data analysis opportunities. Tex-SIS data are being used in a variety of ways at both the state and local levels, including:

- community public relations campaigns
- career counseling with students
- improvement of instructional programs
- vocational and veterans reporting
- liaison with advisory groups
- development of curricula
- course scheduling

In addition, information is specifically available on the employment status of students in the following areas: (1) graduates and students who do not return from one semester, (2) students' job titles once employed, and (3) availability of jobs by program completers. All of these areas are currently being linked with the supply/demand analysis work of the Texas 1202 Commission--which matches Tex-SIS student follow-up responses (as one source of supply data) with occupational demand information.

The Tex-SIS follow-up system will enter its third year of full statewide implementation in the fall of 1978. During these three years of operation, central processing services have been available to Texas institutions that wish to utilize any of the Tex-SIS questionnaires. These central processing services are charged with the responsibility for (1) printing, upon request, Tex-SIS

questionnaires for Texas institutions, (2) processing Tex-SIS questionnaires after the research surveys have been conducted at the local level, and (3) producing statewide Tex-SIS information for comparisons with local information. It is this statewide Tex-SIS information which then provides the data link to the supply/demand work of the 1202 Commission in Texas.

The Tex-SIS system is continuing to be successfully used throughout Texas colleges. Many colleges now have three consecutive years of follow-up data from which to make reliable programmatic decisions. There becomes increased opportunity for longitudinal studies and data analysis on both the state and local level. Consideration is being made to expand Tex-SIS follow-up opportunities to the Texas four-year college and university systems. A survey is being conducted to gain input by the university community to determine a need for such a follow-up system.

Supply/Demand Analysis-Annual Report of the Texas 1202 Commission - Office of Educational Planning. In 1976 the Coordinating Board, Texas College and University System, was established as the State Comprehensive Postsecondary Educational Planning Commission (1202 Commission). The 1202 Commission identified its major objective as the analysis of education supply data as it relates to occupational demand in Texas. The supply/demand system subsequently designed delivers job outlook information for students to make better career decisions. Such analysis has now been implemented annually for two consecutive years in Texas with the help of Texas postsecondary educational institutions and other state agencies.

The 1202 Commission continues to provide information on the relationship between student output in postsecondary education in Texas and career opportunities

in the job market. A specific goal of the Commission is to identify those vocational and academic programs which are overproducing, underproducing, and/or in balance relative to occupational openings. With this type of knowledge available to counselors, students, parents, and educational administrators, better informed decisions can be made regarding educational planning and a student career choices.[2]

In order to perform the data analysis required to achieve the 1202 Commission's objective, a comprehensive data collection effort must take place each year. However, with statewide data collection systems such as the Tex-SIS follow-up system in place, the scope of the work required to collect needed data has been significantly reduced. The data elements required to make the educational supply/occupational demand comparisons include experiences and trends in locating employment for graduates of their institutions as determined by institutional placement officials; the types of occupations open to graduates of each program; forecasts of the annual output of graduates from postsecondary programs; percentages of students who complete postsecondary educational programs that actually enter the job market; forecasts of the number of students (not classified as graduates) who will leave school and enter the job market after one or more years of college; forecasts of the number of high school graduates (or equivalent) who will enter the job market after completion of some vocational training beyond high school, but who are below the one-year college level; forecasts of the annual number of job openings, by occupation, in Texas; and forecasts of the effect of net in-migration of workers into Texas on the job openings available to persons who complete postsecondary educational training in the state.[3]

Various means of data collection and data analysis procedures are used to acquire the extensive data required to accomplish any desired supply/demand analysis. In addition to the above data elements used in the educational supply/demand analysis, the Tex-SIS follow-up system is generating actual job titles of community college graduates. Survey forms requesting evaluation of short-term employment opportunities are sent directly to the colleges and universities (public and private) and such organizations as the Proprietary School Association. Similar information is received from the U.S. Department of Labor and U.S. Office of Education. Forecasting which utilizes a time delay model, regression analysis, and number of degrees awarded are used to determine output information.

As mentioned earlier, Tex-SIS follow-up information is used to derive percentages of annual output available for the labor market. Analysis of nonreturning student percentages are also computed from Tex-SIS data. Additional sources of output information (e.g., CETA programs, job corps centers, apprenticeship programs) are utilized. Data from the Texas Employment Commission and information on net in-migration is used to determine the number of job openings.

The Texas postsecondary supply/demand approach results in the presentation of a report which displays employment opportunities by program and projections of postsecondary supply as well as occupational openings. In the first section of the supply/demand report, educational programs (e.g., doctor of medicine, economics, dental hygiene) are listed by five educational attainment levels: (1) Professional degree; (2) Graduate degree; (3) Baccalaureate degree; (4) Two-or three-year programs; (5) Less than two-year programs.

Short-term employment opportunities are listed by program and related occupations through the use of the rating terms "excellent," "very good," "good," "competitive," or "keenly competitive." These terms reflect a numerical analysis based on the difference between demand (D) for the workers in a given program/occupational match and the supply (S) of graduates of the program. Terms used and numerical ratings determined through the comparison of supply and demand relate as follows: "Excellent" job opportunity exists if $\frac{D-S}{S}$ is +40% or more; "Very Good" job opportunity exists if $\frac{D-S}{S}$ = +16% to 39%; "Good" job opportunity exists if $\frac{D-S}{S}$ = +15% to -15%; "Competitive" job opportunity exists if $\frac{D-S}{S}$ = -16% to -39%; "Keenly Competitive" job opportunity exists if $\frac{D-S}{S}$ = -40% and below.[4]

Statewide employment opportunities are included for all occupations listed. Regional employment opportunities are available only by vocational program area. The 1202 Commission report projects supply/demand information for a five-year period. (The latest five-year analysis is for 1977-1983). The supply/demand projections include occupational openings and program output by (1) graduate degree, (2) baccalaureate degree, (3) one to three years of college, (4) high school plus additional vocational training below the college level. For the five-year projections, postsecondary educational supply is defined as the number of persons entering the Texas job market with a high school education plus some vocational training beyond high school, or at least one year of college.

Occupational demand is defined as the number of openings, by occupation, in the Texas job market available to those persons who meet the postsecondary educational supply criteria.[5] Demand data is obtained directly from the Texas

Employment Commission and analyzed according to jobs available by educational attainment level. Average annual output by program of study (by educational attainment level) is projected for a five-year period. Program output is reduced by the number of those persons not expected to enter the job market. An average annual number of job openings is also projected for a five-year period according to the appropriate educational attainment level.

Further matching of occupations to programs and the calculation of the number of job openings in each occupation results in a complete picture of the available 'market-ready' supply for each program. Available job openings for each occupation are depicted at each of the educational attainment levels.

Supply data (in supply/demand analysis) necessitates the collection of the number of graduates or completions during a specified time period, the number of graduates or completions who actually enter the occupation, the number of graduates or completions who are already employed in the occupation before receiving their training, and such factors affecting job entry rates as relative wages and job opportunities.[6] The Tex-SIS follow-up system individual student responses collect much of this supply information. The Tex-SIS follow-up system student responses are utilized in the Texas comprehensive data collection effort for analysis of educational supply and occupational demand. The major outcome of this data collection and data analysis effort is improved use of information. Such information can then be readily made available to educators and the general public for education decision-related career choices and program planning. Fine tuning of both the Tex-SIS follow-up system and the 1202 Commission supply/demand system will enhance the quality of Texas data collection and data analysis.

The integration of the Tex-SIS follow-up system and the 1202 Commission supply/demand system also provides a valuable prototype for other states and perhaps even a national system of data collection and analysis.

Footnotes

1. Reed, Jim. SIS: Student Information System Activities Manual, Student Follow-up, Fort Worth, Texas: Tarrant County Junior College, August 1976, page ix.

2. Cobb, John H. et al. Post-Secondary Educational Supply and Occupational Demand in Texas for the Period of 1977-1983, Austin, Texas: Coordinating Board: Texas College and University System, 1978, page 1.

3. Cobb, John H. et al. Technical Report, Post-Secondary Educational Supply and Occupational Demand in Texas for the Period 1977-1983, Austin, Texas: Coordinating Board: Texas College and University System, 1978, pages 1-2.

4. Cobb, John H. et al., Ibid., page 8.

5. Cobb, John H. et al., Ibid, page 11.

6. Sommers, Dixie, Occupational Supply: Concepts and Sources of Data for Manpower Analysis, Washington, D.C.: U.S. Department of Labor, 1974, Bulletin 1816, page 7.

UNIVERSITY OF CALIF.
LOS ANGELES

OCT 20 1978

CLEARINGHOUSE FOR
JUNIOR COLLEGES